	Application No.	Applicant(s)
Notice of Allowability	09/498,554	WINKLER ET AL.
	Examiner	Art Unit
	Jan M. Ludlow	1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *Amdt filed 1/14/2004 and Exr's amdt*.

2. ☒ The allowed claim(s) is/are *48-73, 75-104, 106-121, 123-147*.

3. ☒ The drawings filed on *12 April 2002 and 04 February 2000* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *3/1/2004* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

Jan M. Ludlow
Primary Examiner
Art Unit: 1743

1.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

2.   The application has been amended as follows:

3.   Claims 1-47 were previously cancelled.

4.   In claim 129, line 1, change "74" to –48–.

5.   In claim 135, line 1, change "105" to –49–.

6.   In claim 139, line 1, change "74" to –48–.

7.   In claim 145, line 1, change "105" to –61–.

8.   Cancel claims 148-207, drawn to claims non-elected without traverse.

9.   Replace the Abstract with the abstract found on a separate page.

10.   Amend the continuity data as shown in the attached photocopy of the preliminary

amendment.

11.   The following is an examiner's statement of reasons for allowance:

12.   Deeg ('638) teaches deposition of droplets onto a substrate in compartments.

The compartments can be individual dots (col. 3, line 4). The dots can be produced by

a quantum of liquid ejected from a printer to cover an area as small as 500 square

micrometers (col. 3, lines 27-37). Center to center spacing of dots from one

compartment to the next may be as small as .26mm (col. 9, line 3) in an embodiment in

which overlapping dots are used in each compartment. None of the examples teaches

an embodiment with separate dots, and it is therefore unclear whether or not one of

ordinary skill would have used a) individual drops ejected from the printer to form

individual dots (instant single step) or the same spacing between individual dots in all

directions as between the lines (compartments) in the multi-dot compartments shown

(resulting in the instant density). Deeg teaches ligands (antibodies), and further teaches

that other specific bioreactive interactions may be used (col. 1, line 36). Deeg teaches

that compartments should be close together, but spatially separated (col. 2, lines 64-

65). The compartments contain different reagents (col. 3, lines 11-12). With or without

Prats, an inkjet printer head is spaced from the substrate. However, Deeg '638 teaches

a test strip with repeating patterns of three reagents, and the instant claims define over

Deeg by at least the limitation to 100-1000 different ligands, which Deeg does not seem

to contemplate at all.

13.   Deeg ('688) has a similar disclosure as Deeg ('638) with respect to individual

dots and overlap (col. 6, lines 22-32), but only discusses "several" reagents (col. 5, line

12), and a 12 jet printhead (col. 6, line 62), neither of which suggest the 100-1000

different ligands presently claimed.

14.   Brennan ('796) teaches depositing plural droplets per region (col. 7, lines 63-64),

and therefore does not teach or suggest "a single coupling step" as claimed.

15.   Gordon also fails to teach or suggest "a single coupling step" as claimed for the

volume claimed at the density claimed. The rejections over Pirrung and Southern are

similarly overcome.

16.   The examiner agrees with applicant that the disclosure of Khrapko is not

sufficiently detailed to support a rejection. The examiner further notes that, e.g., on

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page 4 of the Facts and Arguments in Support of Opposition by A. G. Sheard, the

method of Khrapko is interpreted as a capillary (contact) method.

17. Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

18. Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jan M. Ludlow whose telephone number is (571) 272-

1260. The examiner can normally be reached on Monday-Thursday, 11:30 am - 8:00

pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Jan M. Ludlow
Primary Examiner
Art Unit 1743

Jml
March 1, 2004

Abstract of the Disclosure

A method for producing arrays by spacing a dispenser a distance from a surface of a support, dispensing a volume containing a compound in a single coupling step of less than 5 nl to occupy a localized area of less than 1 cm^2 of the surface of the support, allowing the compound to bind directly or indirectly to the support and repeating the steps to produce an array of at least 100 ligands at a density of 1000 per cm^2 or greater.